

IN THE CLAIMS

1. (Original) A method of transmitting a radio signal by use of carrier frequencies, comprising:

generating signals, each signal having a respective one of the carrier frequencies;
amplifying each generated signal;
passing each amplified generated signal having said respective one of the carrier frequencies through a respective variable band-pass filter;
controlling a pass band of each variable band-pass filter according to each of said generated signals having said respective one of the carrier frequencies;
combining signals output from said respective variable band-pass filters into a transmission signal;
detecting a fault of one of said variable band-pass filters; and
stopping an operation of the one variable band-pass filter having the fault upon detection of the fault.

2. (Original) The method according to claim 1, further comprising:
varying a bandwidth of the pass band of at least one of said variable band-pass filters based on a transmission rate of the transmission signal.

3. (Original) The method according to claim 1, wherein the variable band-pass filters are superconductive filters in a refrigerator.

4. (Original) The method according to claim 3, further comprising:
monitoring a power of at least one of said amplified generated signals;
monitoring a temperature of at least one of said superconductive filters; and

controlling an operation of the refrigerator based on the at least one monitored power and the at least one monitored temperature.

5. (Original) The method according to claim 3, further comprising:
monitoring a temperature of at least one of said superconductive filters; and
controlling an operation efficiency of the refrigerator based on a signal output timing of each amplified generated signal and the at least one monitored temperature.

6-11. (Canceled)